



**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Keith R. D'ALESSIO et al.

Group Art Unit: 1772

Application No.: 09/430,289

Examiner: S. HON

Filed: October 29, 1999

Docket No.: 100497.02

For: POLYMERIC CONTAINERS FOR 1,1-DISUBSTITUTED MONOMER COMPOSITIONS

**REQUEST FOR RECONSIDERATION**

Director of the U.S. Patent and Trademark Office  
Washington, D.C. 20231

Sir:

In reply to the Office Action mailed July 8, 2002, Applicants request reconsideration of the application in view of the following remarks.

Claims 1-59 are pending herein. By the Office Action, claims 6-8 and 15 are rejected under 35 U.S.C. §112; claims 1-6, 8-11, 16, 18-19, 45-46, 56 and 59 are rejected under 35 U.S.C. §102; claims 6-7, 15-20, 47 and 49 are rejected under 35 U.S.C. §103; and claims 21-44, 51-55 and 57-58 are withdrawn from consideration.

Applicants thank Examiner Hon for the indication that the previous rejection of the claims over Colvin have been withdrawn.

Applicants also thank Examiner Hon for the courtesies extended their representatives at the November 25 personal interview. Applicants' separate record of the substance of the interview is incorporated in the following remarks.

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I. Response to Interview

At the November 25 personal interview, a new issue was raised as to the scope of the claims where they recite "a combination including ..." Applicants submit that this claim language is clear and definite, and would be understood by one of ordinary skill in the art. For example, claim 1 recites "a combination including: a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material, and a 1,1-disubstituted ethylene monomer composition contained in said container." The claim clearly indicates that the subject matter being claimed is a combination, i.e., a combined product, including both a container and the specific contents of the container. The claims distinguish over the art, as described below, because they require both the specific container as claimed, and the specific contents as claimed.

II. Restriction Requirement

The Restriction Requirement restricts between Group I (claims 1-20, 45-50, 56 and 59) and Group II (claims 21-44, 51-55 and 57-58). In response to the Restriction Requirement, Applicants previously elected the claims of Group I, with traverse. Confirmation of the election was filed in the U.S. Patent and Trademark Office on May 17, 2001.

Rejoinder of all of the claims is respectfully requested. The claims of Groups I and II are drawn to sufficiently inter-related inventions to warrant examination thereof in a single application. Group I is drawn to a combination including a specified container and a 1,1-disubstituted ethylene monomer composition contained in the container. Group II is drawn to a process for making such a container or combination. Compare, for example, claim 1 (Group I) and claim 21 (Group II).

Where product and process claims are presented in the same application, Applicant may be called upon under 35 U.S.C. §121 to elect claims to either the product or process. MPEP §821.04. However, in the case of an elected product claim, rejoinder will be permitted when a

product claim is found allowable and the withdrawn process claim depends from or otherwise includes all the limitations of an allowed product claim. Id.

In the present application, the method claims of Group II include all of the limitations of the product of Group I. In particular, all of the limitations of the independent product claim 1 of Group I are incorporated into the method of Group II.

Since the method claims of Group II include the limitations of the product claims of Group I, the method claims must be rejoined with the product claims once the product claims are allowed. Thus, to streamline prosecution and avoid delay, the Restriction Requirement should be withdrawn to permit concurrent examination of all of the pending claims. Applicants respectfully request reconsideration and withdrawal of the Restriction Requirement.

The Office Action acknowledges that the above-requested rejoinder is correct, but argues that rejoinder is premature at this time. Because all of the claims are allowable, for the reasons described below, rejoinder is proper at this time.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the Restriction Requirement.

### III. Rejection Under §112

Claims 6-8 and 15 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Office Action argues that it is unclear what the differences are between the polyethylenes. The Office Action further argues that the previous reference submitted by Applicants in response to this rejection did not adequately show the difference in the polyethylenes in terms of density. Applicants respectfully traverse the rejection.

As Applicants have explained in great detail in previous responses, and as evidenced by the specific references provided by Applicants, it is well known to one of ordinary skill in the art that "polyethylene" is a term that is used to broadly refer to a closely related group of polymer materials. Within that broad group of polyethylenes, there are a number of well-

known sub-groups of polymers, generally characterized by their density and/or molecular configuration. Applicants have previously submitted a copy of a dictionary definition, as well as other references showing that the various density forms of polyethylenes are well known in the art, and thus would not be considered indefinite.

Moreover, a brief keyword search of the issued U.S. Patents database on the PTO website also clearly disproves the statements made in the Office Action. Applicants' undersigned attorney conducted searches of the database on November 12, 2002, and found that literally thousands of issued U.S. Patents referred to the various grades of polyethylene. In fact, each of the various terms appeared in thousands of issued U.S. Patents, including the specification and claims, and even appeared in the titles of numerous issued U.S. Patents. The results of the search were as follows:

Search Term	No. Patents With Search Term in Full Specification	No. Patents With Search Term in Claims	No. Patents With Search Term in Title
LDPE (low density polyethylene)	16,617	3,068	4
LLDPE (linear low density polyethylene)	6,863	1,328	28
HDPE (high density polyethylene)	18,790	3,005	19

All of the above information indicates that the density classification of polyethylene, as used in the description and claims of the present application, and well known and accepted in the art. Thus, the claims are not indefinite.

Accordingly, claims 6-8 and 15 satisfy the requirements of 35 U.S.C. §112, second paragraph. Reconsideration and withdrawal of the rejection are respectfully requested.

#### IV. Rejections Over Tetsuro

The Office Action makes rejections under 35 U.S.C. §102 and §103 over a reference identified as "Tetsuro." Applicants believe that the cited reference is in fact U.S. Patent No.

5,909,976 to Tetsuro MAEDA, and address the rejections as such. The Examiner confirmed at the November 25 interview that this is the correct reference.

In particular, claims 1-6, 8-11, 16, 18-19, 45-46, 56 and 59 are rejected under 35 U.S.C. §102(e) over Maeda, and claims 6-7, 15-20, 47 and 49 are rejected under 35 U.S.C. §103(a) over Maeda in view of Kvidtrud. Because the rejections are related, they are addressed together. Applicants respectfully traverse these rejections.

A. The Claimed Invention

Independent claim 1 is directed to a combination including: a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material, and a 1,1-disubstituted ethylene monomer composition contained in said container. Similarly, independent claim 45 is directed to a container containing an adhesive monomer composition, comprising: a container comprising a polymeric resin matrix including at least one post-halogenated polymeric material, and an adhesive monomer composition contained in said container. Independent claim 46 is directed to a combination including: a container comprising a polymeric resin matrix including at least one functionalized polymeric material, and a 1,1-disubstituted ethylene monomer composition contained in said container. Claims 2-4, 9,13-14, and 16-17 depend from claim 1. The claimed invention is not anticipated by, and would not have been obvious over, the cited references.

The Office Action argues that Maeda teaches all of the limitations of the claimed invention. The Office Action further argues that any differences between the claimed invention and Maeda are only due to process limitations, which do not affect the claimed products. Applicants respectfully disagree.

B. Maeda Does Not Teach or Suggest Post-Halogenated or Functionalized Materials

Claims 1, 45 and 46 each specifically require that the container comprises a polymeric resin matrix, which includes at least one post-halogenated polymeric material or at least one functionalized polymeric material. Such containers are not taught or suggested by Maeda, and are different from the materials and containers taught by Maeda in terms of their properties and effects.

Maeda is very similar to Colvin, which is described in the specification at page 5, lines 1-16, and which was addressed in Applicants' previous response. As described in the Office Action, Maeda discloses a container to hold cyanoacrylate ester adhesives. The container has a body that is substantially impermeable to air and moisture to minimize deterioration of the contained adhesive. The container comprises a container main body comprising a polyolefin resin; and a cap having a brush for capping the container main body. At least the container main body is coated with a gas-impermeable coating material, which is insoluble in the cyanoacrylate and which has poor adhesion properties with respect to the cyanoacrylate. See Maeda at Abstract.

According to Maeda, the container main body can be formed from any suitable polyolefin resin, such as polyethylene and polypropylene. Col. 3, lines 31-35. However, Maeda describes that such polyolefin materials have a problem that the materials are gas permeable, which means that the reaction-inhibiting gas contained within the container can permeate through the container and escape, which can lead to premature polymerization of the contained adhesive and a reduction in the adhesive's shelf-life. Col. 3, lines 36-42. Maeda overcomes that problem by ensuring that the container is gas impermeable.

Maeda describes that an impermeable layer of fluororesin or paraffin wax is applied to the inner surface of the container. Col. 2, lines 35-42 and col. 3, lines 58-64. Because the

fluororesin may not adhere well to the inner surface of the polyolefin container, Maeda further discloses that a treatment process may be required, such as an unidentified process conducted by Fluoro-Seal, Inc. Col. 5, lines 19-25 and col. 6, lines 9-10. (Maeda neither discloses what the particular treatment process is or what it accomplishes, other than describing that it helps adhere the fluororesin to the polyolefin container wall.)

However, as to the materials of the container of Maeda, all of the materials are either not halogenated (as the polyolefin main container body or paraffin gas impermeable layer) or are pre-halogenated (as the fluororesin gas impermeable layer). In the case of the fluororesin, the material is pre-halogenated, and so any subsequent treatment would not result in a post-halogenated material.

In contrast to the containers of Maeda, the containers of the claimed invention do not utilize pre-halogenated polymers such as Maeda's fluororesin. That is, whereas Maeda discloses the use of pre-halogenated fluororesin materials as the gas impermeable layer, the claimed invention requires the use of post-halogenated or functionalized polymeric materials. The post-halogenated materials are specifically defined in the specification as those polymers that are halogenated, such as fluorinated, subsequent to formation of the polymer material. Page 8, lines 27-29. Likewise, functionalized materials are defined as materials, other than the described post-halogenated materials, where a protective surface layer is provided, for example, by  $\text{SO}_3\text{H}$ ,  $\text{CO}_2\text{H}$ ,  $\text{CONR}_2$ ,  $\text{COX}$ ,  $\text{CO}_2\text{R}$ ,  $\text{SO}_2\text{X}$ ,  $\text{SO}_2\text{NH}_2$ ,  $\text{SO}_2\text{NR}_2$ , or mixtures thereof. These materials are thus distinct from the pre-halogenated fluororesin materials of Maeda, where gas impermeable layer is applied to the pre-formed polyolefin container body.

Nowhere does Maeda teach or suggest that the pre-halogenated fluororesin materials could or should be substituted with post-halogenated or functionalized materials. Instead, Maeda teaches only that a pre-halogenated polymer (fluororesin) should be applied as a gas impermeable layer on the inside of the container, and that a subsequent unspecified treatment

is conducted merely to adhere the fluororesin layer to the polyolefin layer. Maeda does not teach or suggest that a two-step process should instead be used, where the container is first molded from a polymer material, and then the molded polymer container is subsequently halogenated or functionalized, as in the claimed invention.

C. The Claimed Post-Halogenated or Functionalized Materials  
Are Different from the Materials of Maeda

To overcome this deficiency of Maeda, the Office Action argues that the process steps (post-halogenated or functionalized) of the claimed invention do not distinguish over Maeda. The Office Action argues that the containers are presumed to be the same regardless of the means by which they are made. The Office Action provides no reasoning for this assumption. In fact, however, this assumption is incorrect, and the evidence demonstrates that the claimed containers are different from the containers of Maeda. The Office Action's position is thus essentially the same as was previously taken with respect to Colvin, which rejection was overcome by Applicants' showing that the containers of the claimed invention are in fact different from the containers of Colvin.

1. The Present Specification Teaches This Difference

In fact, Applicants submit that the containers of the claimed invention are significantly different from the containers of Maeda. This difference is specifically described in the present specification, which must be accepted as accurate by the Patent Office in the absence of any evidence to the contrary.

At page 20, line 29 to page 21, line 30, the specification describes the additional benefits provided to a container by the post-halogenation or functionalization treatment. In particular, the specification describes the belief that the post-halogenation or functionalization treatment results in residual acid being present in the container matrix, which provides a stabilization effect to a material contained within the container. The specification goes on to



describe that such residual acid is generally not present in containers made from pre-halogenated materials, due to the conventional purge processes used to make such containers.

Thus, the present specification clearly and unambiguously describes that the containers of the claimed invention, produced by post-halogenation or functionalization treatments, are different from containers made from pre-halogenated fluororesin materials such as in Maeda.

2. Maeda Also Teaches This Difference

Furthermore, Maeda itself teaches that the pre-halogenated fluororesin materials are different from the containers of the claimed invention. In particular, Maeda specifically claims that the disclosed containers have a "gas impermeable" coating. See Maeda at claim 1.

In addition, Maeda presents Examples and Comparative Examples that demonstrate the gas impermeability feature. In Example 1, prepared using a polyolefin container, a fluororesin gas impermeable layer, and the unspecified Fluoro-Seal adhesion treatment, Maeda describes that the container is gas impermeable, where the adhesive composition remains its low viscosity even after seven days of accelerated testing. In contrast, Comparative Example 1, which is identical to Example 1 except for omission of the gas impermeable layer, demonstrates that gas permeability results in viscosity increase to unacceptable levels after only three days of accelerated testing. Maeda thus discloses that the fluororesin provides gas impermeability to the container.

In stark contrast to the disclosure of Maeda, the post-halogenation process of the claimed invention, such as post-fluorination, in fact does not provide gas impermeability, as described below with reference to the attached Declaration.

3. The Attached Declaration Further Establishes The Differences

The attached Declaration clearly and unambiguously demonstrates the above differences between the post-halogenated or functionalized containers of the claimed

invention, and the pre-fluorinated fluororesin layer of the containers of Maeda. The Office Action appears to argue that the respective containers are assumed to be the same, regardless of the process by which they are made, in the absence of any experimental evidence demonstrating the differences. Alternatively, it appears that the Office Action argues that the treatment process disclosed in Maeda, performed by Fluoro-Seal, Inc., would provide containers as claimed. In response, Applicants submit the attached second Declaration Under 37 C.F.R. §1.132, which provides technical and experimental evidence to demonstrate the differences between the respective container materials.

In particular, the attached Declaration describes the differences between the post-halogenated or functionalized containers of the claimed invention, and the pre-fluorinated fluororesin containers of Maeda. The Declaration demonstrates that the post-halogenated or functionalized materials of the claimed invention exhibit moisture vapor transmission rates substantially equal to transmission rates of non-halogenated materials. In contrast, Maeda emphasizes that low moisture vapor transmission rates, i.e., gas impermeable, are required for the storage of cyanoacrylates, and that such low moisture vapor transmission rates are not provided by untreated (non-fluorinated) materials. For example, Maeda describes in Example 1 and Comparative Example 1 that the fluororesin provides gas impermeability in Example 1, which is not provided by the same polyolefin container in the absence of the fluororesin in Comparative Example 1. The Comparative Example demonstrates that in the absence of the gas impermeable fluororesin layer, gas permeates through the container wall to such an extent that the adhesive polymerizes. These disclosures show that Maeda's use of the fluororesin layer is required to have a vapor transmission rate lower than a rate for similar container not including the fluororesin layer. Maeda thus teaches against and away from the post-halogenated or functionalized containers of the claimed invention, which have a vapor transmission rate substantially the same as a virgin container.

In total, the Declaration demonstrates that the materials are physically different, and that the differences result in different properties of the containers. Furthermore, although Maeda teaches that the containers must have a low transmission rate, the present specification demonstrates that superior storage results for cyanoacrylates can be achieved using post-halogenated or functionalized containers, which in fact have transmission rate properties opposite to the requirements of Maeda. The attached Declaration thus not only establishes the differences between the claimed invention and Maeda, but in combination with the present specification also establishes unexpected results of the claimed invention.

4. Conclusion

The claimed invention thus provides significant and unexpected results over Maeda. Nowhere does Maeda teach or suggest that the use of pre-halogenated or functionalized materials would provide any different results or specifically the results of improved barrier properties and improved stabilization.

D. Kvidtrud Does Not Overcome the Deficiencies of Maeda

Kvidtrud is cited as a secondary reference in the §103 rejection. Kvidtrud is cited in particular for its disclosure of a closure capo system. However, regardless of the disclosure of Kvidtrud, any combination of the cited references would not have rendered obvious the claimed invention. Nowhere does Kvidtrud teach or suggest that the polymeric materials of Maeda could or should be modified in any particular manner, so as to arrive at the claimed invention. Kvidtrud thus fails to overcome at least the above-described deficiencies of Maeda.

E. Conclusion

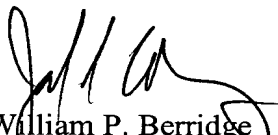
For at least these reasons, Maeda, optionally in combination with Kvidtrud, does not anticipate and would not have rendered obvious the claimed invention. Reconsideration and withdrawal of the rejection are respectfully requested.

V. Conclusion

In view of the foregoing remarks, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

  
William P. Berridge  
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Attachments:

Executed Declaration Under 37 C.F.R. §1.132

Date: December 9, 2002

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